The EP6U is a spare parts kit which is used to replace the following obsolete JTL products as a spare part:

**CP4H CP5H CPLS CP2S**
**CP4C CPCS CP3S**
**CP4L**
**CP4A**

The EP6U provides full functionality of the former products.

**Mechanical**
The EP6U is physically able to replace these CPxx products without significant rework when the original CPxx is installed in a JTL enclosure. The outer fixings are in the same place as the original CPxx fixings. The inner 4 fixings should be removed from the JTL enclosure prior to fitting the new EP6U.

Where the original product is not fitted in a JTL enclosure there is no guarantee that the existing fixings will be in the correct place.

Care should be taken when using an EP6U to replace the original unit to relocate fixings to suit the EP6U. A drilling template is provided for this purpose.

**Electrical**
No rewiring is necessary when replacing the obsolete part with the EP6U. The connector identification has been changed.

The existing connections can be swapped directly, taking care to preserve the pressure transducer order.

**EP6U OUTPUT CONVERSION**

| FUNCTION | EP6U | CPxx |
|---|---|---|
| OUTPUT 1 | LN1<br>NO1 | LINE<br>LOAD 1 |
| OUTPUT 2 | LN2<br>NO2 | LINE<br>LOAD 2 |

**EP6U OUTPUT FUNCTION**

| PRODUCT BEING REPLACED | SELECT OUTPUT FUNCTION WITH MU ITEM 169 | OUTPUT 1 | OUTPUT 2 |
|---|---|---|---|
| CP4H<br>CP5H (See Note 1) | 1 (CPnH) | No system on gas defrost | Watchdog healthy |
| CP4C<br>CPCS | 2 (CPnC) | Open gas dump valve | Open gas temperature regulator valve |
| CP4A<br>CP2S<br>CP3S | 3 (CPnA) | No system on gas defrost | Open interstage valve |
| CP4L<br>CPLS (See Note 2) | 4 (CPnL) | No system on gas defrost (See Note 3) | Watchdog healthy |

Note 1: From later versions, CP5H was also a universal replacement with settings on items 168 & 169. These should be set the same on the EP6U. For information, from v0.00.2 item 169 could be set to values CPnH, CPnC & CPnL, from v0.00.4 169 could also be set to cpnL

Note 2: Output 2 on CPLS is not emulated by the EP6U, in the unlikely event of this output being used, contact the JTL Service Office.

Note 3: Relay state programmable using item 168. This function was added to CP5H from v0.00.6.

Note : Contact closed (relay energised) in state shown.

**Compressor Interface Output Functionality**
Note that the output configuration of the compressor interface card changes with the selection item on 169. If CPnL is selected then the configuration is set up to replace CPLS & CP4L arrangements for Linde compressor packs.

The output details are shown on drawings:

| | | |
|---|---|---|
| CPnL | 00363 | (Linde) |
| All other settings | 02027 | (non-Linde) |

**EP6U INPUT CONVERSION**
**Temperatures**
**CP2, 3, 4 and 5**
No rewiring is necessary, sensor connections can be directly swapped (plugged in).

**CPCS and CPLS**
The temperature sensors require rewiring as follows.
Note: pin nos refer to the DIN socket connector.

| SENSOR | PIN | CPCS /CPLS | EP6U |
|---|---|---|---|
| 1 | 1 | SUCTION GAS | LT SUCTION GAS |
| 2 | 4 | DISCHARGE GAS | HT SUCTION GAS |
| 3 | 5 | SATURATED GAS | DISCHARGE GAS |
| 4 | 3 | CONDENSER AIR ON | SATELLITE GAS |
| 5 | 6 | CONDENSER AIR OFF | SUB-COOLED LIQUID |
| 6 | 7 | HOT WATER | SATURATED GAS |
| 7 | 8 | PLANT ROOM | PLANT ROOM |
| COMMON | 2 | | |

Note 1: The following sensors are not supported by the EP6U
CONDENSER AIR ON
CONDENSER AIR OFF
HOT WATER TEMPERATURE
If these are required to be monitored a separate unit would need to be fitted. JTL can supply a suitable monitor which is compatible with the sensors and JTL network. Contact the JTL Sales Dept.

Note 2: Rewiring is required for the discharge gas and the saturated gas and the suction gas on HT packs.

**Pressures**
No rewiring is necessary, transducers connections can be directly swapped.
NOTE: the order of the connectors must be preserved.

| PRESSURE | EP6U | CP2S, CP3S CP4X, CP5H | CPLS, CPCS |
|---|---|---|---|
| SATELLITE | CON11 | CON6 | |
| DISCHARGE | CON12 | CON7 | CON3 |
| HT | CON13 | CON8 | CON4* |
| LT | CON14 | CON9 | CON4* |

* SELECT THE APPROPRIATE SUCTION LINE ON EP6U

**INPUTS**

| INPUT | EP6U | CPXX |
|---|---|---|
| INPUT 1<br>(LOW LEVEL LIQUID) | IP1<br>IP1 | I/P1<br>I/P1 |
| INPUT 2<br>(AUTO) | IP2<br>IP2 | I/P2<br>I/P2 |

NOTE : No rewiring is necessary.

**EP6U Jnet Network Conversion**
The EP6U & CPXX controllers are fitted with 3 pin din sockets for Jnet Network connection. Thus no rewiring is necessary.

Note, there are 2 connectors on the CPXX, either may have been used. On EP6U there is only 1.

| JNET NETWORK | EP6U | CPXX |
|---|---|---|
| | CON5 | CONNC or CONND |

**EP6U Display Connection**
The display connection on the EP6U & CPXX uses a 7 pin connector. No rewiring is necessary.

| DISPLAY CONNECTION | EP6U | CPXX |
|---|---|---|
| | CON7 | CONNB |

**NOTE:** The EP6U not support legacy LED1 displays driven by the CONVD2 converter. If a CONVD2 is used then this needs to be replaced by a CONVD4 converter.

Maintenance Unit Connection
The MU connection on EP6U & CPXX uses a 6 pin connector. No rewiring is necessary

| MAINTENANCE UNIT CONNECTION | EP6U | CPXX |
|---|---|---|
| | CON9 | CONNA |

**Pack Communications**
The JTL pack communications uses a 4 pin connector. No rewiring is necessary.

| PACK COMMUNICATIONS | EP6U | CPXX |
|---|---|---|
| | CON6 | CON5 |

**Earth Connection**
The earth connections to CON3 or CON4 should be cut off and (if fitted) **NOT** reconnected to the EP6U.

## IMPORTANT NOTE THE FOLLOWING:

The rotary switch settings on the JTL interface boards will need to be changed when using the EP6U to replace the following products: CPCS, CPLS, CP2S, CP3S, CP4A, CP4C, CP4H, CP4L.

| FUNCTION | BOARD TYPE | PREVIOUS | EP6U |
|---|---|---|---|
| CONDENSER BOARD | IF1/7 | 1 | 0 |
| DEFROST BOARD | IF3/7 | 2 | 1 |
| DEFROST BOARD | IF3/7 | 3 | 2 |
| DEFROST BOARD | IF3/7 | 4 | 3 |
| DEFROST BOARD | IF3/7 | 5 | 4 |

In addition where IF3/7 bleed down boards are fitted SW2 on the IF3/7 needs to be changed. See JTL drawing no. 01771.

| FUNCTION | BOARD TYPE | PREVIOUS | EP6U |
|---|---|---|---|
| BLEED DOWN<br>(DRAIN DOWN) | IF3/7 | 6<br>7<br>8<br>9 | 1<br>2<br>3<br>4 |

For full details see the compressor pack installation manual.

**NOTE:** CP5H is compatible with EP6U and no switches require resetting when replacing this product with an EP6U.

**Documentation**
Full documentation exists for the EP6U but if this is not available the CP5H documents may be used in conjunction with the information above.

**Controller Setup**
To ensure compatibility when replacing the original part with an EP6U, action a factory default setting procedure (Item 9) before setting in the new data.


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